

Richard Shi

Software Developer

Contact

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Skills

Proficient

Java, C, C++, Swift
Ruby, Javascript

Familiar

Python, Bash, Objective-C
PostgreSQL, Redis
Clojure, Elixir
ARM Assembly

Tools

Git, svn
Trello, Gerrit, JIRA, Jenkins
GNU/Linux, MacOS
vim, Emacs
Android Studio, XCode
L^AT_EX

Education

University of Waterloo

Candidate for BSc in
Computer Engineering
Sept 2015 – Apr 2020

Certifications

US Provisional Patent 62/080,276

"SYSTEM AND METHOD
OF EFFICIENT LOCATION
DETERMINATION AND
PAGING BETWEEN
GROUPS IN CROWDED
LOCALES USING WI-FI"
Fall 2014

Oracle Certified Associate,
Java SE 7 Programmer
Summer 2015

Work Experience

Rave Media - Waterloo-based Multimedia Startup

Jan–Apr 2017

Software Engineering Intern - iOS app

- Singlehandedly redesigned and optimized the entire networking/REST layer of the app from Objective-C to Swift, **reducing request latency by 14%**
- Rewrote memory management of the app, reducing usage by **73%** overall
- Redesigned build system to **cut build times by 84%** and enable Swift frameworks
- Took on a significant mentorship role to teach less experienced interns Swift, software architecture, Git, etc.
- Led the simplified Chinese localization of the iOS app
- Did code reviews, feature design, bug and crash triaging, and Git branch management

Blackberry

May–Aug 2016

Camera Firmware Developer

- Optimized camera performance for prioritized camera apps, enabling **3X video resolution increase** at minimal performance loss
- Led the development of the Asia-model mandatory firmware shutter sound, enabling **sales in South Korea**
- Built automated build scripts in Python for the Priv, DTEK50 and DTEK60's Hardware abstraction layers
- Created camera component wiring diagrams for the Blackberry KeyOne phone
- Did Gerrit code reviews, JIRA issue triaging, benchmarking, and won Foosball matches

Side Projects

ReactionBot.js

reactionbot-js.herokuapp.com

Node.js, Heroku, Express, PostgreSQL, Slack API, BotKit API, Dashbot API, WebSockets

- A chatbot for Slack that listens for user-defined keywords and responds with images stored in Postgres, with **over 1500 messages sent** since May release
- Communicates with Slack API via WebSocket connections with Express on Heroku

ReactionBot

git.io/v9rJX

Ruby, Sinatra, Redis, Slack API

- The first version of ReactionBot which used Ruby with Redis and was privately hosted

Path Polo - Hack the North 2016 Project

git.io/v9wIz

Android API, Java, Pebble API, Google Maps API

- An Android and Pebble watch app to guide the visually impaired using haptic feedback
- Directed users to locations chosen on Google Maps on phone or pebble app

Interests

Geopolitics & World History: President of high school Model United Nations Club; Actively organized lectures and mock debates for 30+ students for a Model United Nations Competition

Swimming (Certified Swimming Instructor), Piano, Strategy Games, Tabletop RPGs, French House